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United States Department of Agriculture

Animal and Plant Health Inspection Service

Celebrating 10 Years

NAHLN

The National Animal Health Laboratory Network

2002–2012

Letter From the COORDINATOR

When the U.S. Department of Agriculture (USDA) and our partners established the National Animal Health Laboratory Network (NAHLN) in 2002, we created a set of founding principles to guide our efforts and support our mission. Over the past 10 years, our activities have continually supported those principles. A decade of collaboration has brought about significant progress and advanced capabilities, but NAHLN's foundation remains the same: a strong, cross-sector partnership to safeguard animal health.

NAHLN serves as the nationwide model for effective diagnostic networks—and in this role, the scope of our work is wide-ranging. Below are some highlights of NAHLN's accomplishments over the years, based on our six founding principles.

Quality Management Standards

We show our commitment to quality laboratories and test results through many activities, including: creating a laboratory review process in cooperation with the American Association of Veterinary Laboratory Diagnosticians (AAVLD) Accreditation Committee; requiring all NAHLN laboratories to put in place and continually improve a quality management system (QMS) consistent with international standards; developing and offering QMS training to NAHLN laboratories, other laboratory networks, and international participants; and producing QMS distance-learning modules.

Competency of Laboratory Personnel

NAHLN relies heavily on a Train the Trainer program, which has led to a significant increase in the number of personnel trained and proficiency-tested. As a result, our Nation is better prepared to respond to an adverse animal health event. For example, since fiscal year (FY) 2004, the number of NAHLN-approved laboratories increased from 12 to 38, while the number of approved analysts for foot-and-mouth disease (FMD) and classical swine fever (CSF) increased from 24 to 167.

Standardized Protocols, Equipment, and Reference Materials

NAHLN uses standard operating procedures (SOPs) developed, coordinated, and administered by the National Veterinary Services Laboratories (NVSL) in all of its network labs and also provides them with reference materials, including proficiency tests. This standardization ensures comparable diagnostic test results across the network. Over the years, the NAHLN Methods Technical Working Group developed processes for methods comparison; reviewed processes related to the release of NAHLN SOPs; discussed critical gaps in assays and related projects; and evaluated projects related to NAHLN capabilities and capacities. Additionally, the group continues to review all data related to assay validation and provides recommendations for use of new or modified diagnostics in NAHLN laboratories.

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Secure Electronic Communications and Reporting

NAHLN information technology (IT) experts created a system for messaging test results in a Health Level 7 (HL7®) format, providing for centralized, standardized laboratory data across the network. They also developed additional IT tools to capture individual laboratory and network capacity and serve as a secure mechanism for sharing information through the NAHLN Portal.

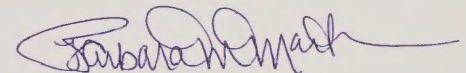
Adequate Biosafety/Biosecurity and Assessment of Preparedness Through Scenario Testing

Animal health professionals across the United States participated in an extensive series of avian influenza (AI) and FMD tabletop exercises. These exercises help improve processes, guidance, and overall preparedness for a foreign animal disease outbreak by identifying and prioritizing gaps in areas such as laboratory capacity, communication, and diagnostic technologies. By recognizing what still needs work, we've put new policies in place, developed and validated new diagnostic assays, and increased the network's support for continued practice and exercises.

Collectively, NAHLN's founding principles are instrumental in all that we do. For example, we used these principles when carrying out national surveillance programs. We partnered with stakeholders to conduct testing for wild bird AI, bovine spongiform encephalopathy (BSE), classical swine fever, chronic wasting disease, pseudorabies, scrapie, and swine influenza. We also deployed a number of additional assays for emergency preparedness, such as the FMD polymerase chain reaction (PCR) test, that can be used during foreign animal disease investigations. These advancements would not have been possible without our partners and the common vision we share.

In marking NAHLN's 10th anniversary, we reflect on how far we've come—and look forward to the future as we continue our work. Please join me in celebrating the success of an outstanding network that we have built together.

Happy 10th anniversary, NAHLN!



Barbara M. Martin
Former NAHLN Coordinator
NVSL, Veterinary Services
Animal and Plant Health Inspection Service
USDA

VISION

NAHLN is the nationwide model for effective diagnostic networks that respond quickly and efficiently and communicate diagnostic outcomes to decisionmakers. NAHLN is organized and supported so that it has the capacity to respond to animal disease outbreaks nationwide.

MISSION

NAHLN's mission is to provide accessible, timely, accurate, and consistent animal disease laboratory services nationwide; provide laboratory data to meet epidemiological and disease reporting needs; maintain the capacity and capability to provide laboratory services in support of responses to foreign animal disease outbreaks or other adverse animal health events; and focus on diseases of livestock (exotic, zoonotic, and emerging diseases) while including diseases of nonlivestock species.

FOUNDING PRINCIPLES

- Quality Management Standards
- Competency of Laboratory Personnel
- Standardized Protocols, Equipment, and Reference Materials
- Adequate Biosafety/Biosecurity
- Secure Electronic Communications and Reporting
- Assessment of Preparedness Through Scenario Testing

NAHLN

PARTNERSHIP

NAHLN Partners

Federal and State agencies, university groups, and nongovernmental organizations:

- U.S. Department of Agriculture
 - Agricultural Research Service
 - Animal and Plant Health Inspection Service
 - National Institute of Food and Agriculture
- U.S. Department of Homeland Security
- State animal health officials
- NAHLN laboratory personnel
- National Center for Food Protection and Defense
- National Center for Foreign Animal and Zoonotic Disease Defense
- National Agricultural Biosecurity Center
- American Association of Veterinary Laboratory Diagnosticians
- American Veterinary Medical Association
- National Institute for Animal Health
- United States Animal Health Association
- Animal Agriculture Coalition

Timeline: NAHLN's First Decade

FMD Outbreak in the United Kingdom and Anthrax Threats Following 9/11

The 2001 FMD outbreak in the United Kingdom and the anthrax threats following 9/11 demonstrated that the Nation's public health and food supply are at constant risk. These threats prompted the need to leverage diagnostic resources in the United States.

AAVLD/NVSL Memorandum of Understanding (MOU)

NVSL and AAVLD developed an MOU to clarify mutual goals and objectives for promoting and enhancing animal health diagnostic services in the United States.

AAVLD White Paper

AAVLD submitted a white paper request for USDA to support a shared partnership between publicly funded State, university, and Federal animal health laboratories to effectively respond to adverse animal health events in the United States.



★ Federal Facility
● State/University Facility

2001

Animal Health Safeguarding Review

In October 2001, the National Association of State Departments of Agriculture's Research Foundation issued a report titled, "The Animal Health Safeguarding Review Results and Recommendations Executive Summary." The primary recommendation was that Congress and USDA provide funding and act to rebuild the State and national infrastructure for animal disease control, emergency disease preparedness, and response.

Initial Study on IT Messaging Requirements

We conducted a study on IT system requirements for automating test orders to laboratories and returning laboratory test result data. This led to the NAHLN result messaging pilot project.

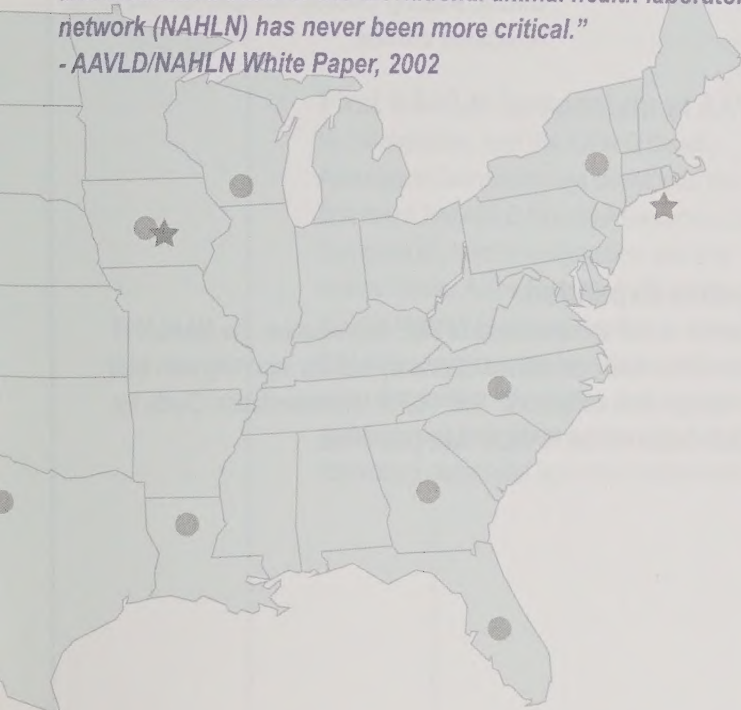
2002

NAHLN ==CREATED==

The U.S. Department of Homeland Security (DHS) awarded special funds to 12 State and university diagnostic laboratories to develop capacity and surveillance programs for 8 high-priority foreign animal diseases. The original 12 laboratories formed NAHLN, which would coordinate Federal laboratory capacity with the extensive facilities, professional expertise, and assistance of State-supported laboratories.

"A national strategy, melding the nation's Federal, State, and local resources, would be capable of responding to any type of animal health emergency, including bioterrorist events, newly emerging diseases, and foreign animal disease agents that threaten the nation's food supply and public health... the need to develop and maintain a state-of-the-art national animal health laboratory network (NAHLN) has never been more critical."

- AAVLD/NAHLN White Paper, 2002



NAHLN Laboratories Proficiency Tested for Foreign Animal Disease Detection

NAHLN laboratories successfully completed proficiency testing for classical swine fever (CSF), FMD, and vesicular stomatitis.

2003

NAHLN IT Committee Formed

We established the IT Committee to help NAHLN laboratories report standardized animal health and veterinary diagnostic data electronically from their Laboratory Information Management System (LIMS) to APHIS Veterinary Services (VS) databases. The system is designed to improve data quality, increase the speed of reporting laboratory results, and meet the NAHLN goal of a secure communication alert and reporting system.

Steering Committee Formed

We formed the NAHLN Steering Committee to provide oversight and guidance to the network. The committee made sure that combined local, State, and Federal diagnostic capabilities are adequate to respond quickly and effectively to a terrorist attack, major disease outbreak, or other disaster affecting the national agriculture or food infrastructure and can provide ongoing surveillance for several endemic diseases.

Health Level 7 (HL7®)

NAHLN adopted Health Level 7 (HL7®) as its standard messaging format.

Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Section 335

The Act authorized the Secretary of Agriculture to develop an agricultural early warning surveillance system to counteract growing risks of the accidental or malicious introduction of exotic animal diseases.

BSE Surveillance Enhanced

Following the December 2003 detection of BSE in an imported cow, USDA implemented an enhanced BSE surveillance program to more accurately determine the prevalence of the disease in the U.S. cattle population. Six NAHLN laboratories completed proficiency testing and became approved to conduct BSE testing.

New NAHLN Surveillance Testing Activities

USDA formally announced that NAHLN surveillance activities would expand to include chronic wasting disease, scrapie, AI, and exotic Newcastle disease.

IT System Expanded

In response to the enhancement of BSE surveillance, the NAHLN IT system electronically combined laboratory results reporting with field epidemiologic data collection. The "HL7® Implementation Guide for Data Submission to the NAHLN" was published.



2004

Homeland Security Presidential Directive (HSPD)-9

The President issued a directive in February 2004 to establish a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies.

HSPD-10

The President issued a directive in April 2004 to establish biodefense for the 21st Century. This includes the development of an integrated and comprehensive attack warning system to rapidly recognize and characterize the dispersal of biological agents in animal populations.

Train the Trainer Program

We established our Train the Trainer program to increase the number of people trained and proficiency tested to address animal health emergencies.

USDA Provided Additional Funding Support to NAHLN Laboratories

USDA provided initial infrastructure funding to NAHLN laboratories and established laboratory designations.

First NAHLN Symposium at AAVLD

In collaboration with the AAVLD Quality Assurance Committee, we developed the first NAHLN/AAVLD Quality Assurance Joint Symposium, held in conjunction with the United States Animal Health Association (USAHA)/AAVLD annual meetings. Since that time, symposiums have been held each year, distributing information and updates and fostering table discussions with NAHLN laboratory personnel and other stakeholders.

Integrated Consortium of Laboratory Networks (ICLN) Established

A memorandum of agreement between senior officials of Federal agencies that have a primary responsibility for current and emerging networks, as well as those with a strong supporting role, created the ICLN. The goal is to form a laboratory network capable of integrated and coordinated response to emergencies and major incidents. NAHLN is a founding member of ICLN.

2005

Proficiency Testing

Personnel from 39 NAHLN laboratories completed proficiency testing for AI and exotic Newcastle disease.

NAHLN IT System Implemented

The NAHLN IT system originally pilot-tested in the six BSE laboratories became available to all NAHLN laboratories for result messaging.

CSF Surveillance Initiated

We implemented CSF surveillance as APHIS' first fully collaborative foreign animal disease surveillance system.

NAHLN Methods Technical Working Group Formed

We established the NAHLN Methods Technical Working Group to provide input on various aspects of methods validation and approval. The group includes NVSL, NAHLN, and international representation. This group is instrumental in developing processes to adapt different sample types and platforms to existing assays, and in reviewing input on NAHLN-related assays.

NAHLN Symposium

Working with others in VS, we developed a NAHLN symposium titled "Laboratory Emergency Management" and held it in conjunction with the USAHA/AAVLD annual meetings.

2006

NAHLN Strategic Plan Developed

The NAHLN Steering Committee developed a strategic plan for NAHLN.

IT Messaging Training

We provided training to NAHLN laboratories to help them successfully send NAHLN surveillance test results via HL7® messages. As a result of the training, we developed the "Hitchhiker's Guide to NAHLN Messaging."

New Content Added to Train the Trainer Program

We added proficiency testing for FMD, CSF, AI, and exotic Newcastle disease to the Train the Trainer program.

Exercises and Drills Working Group

We formed the Exercises and Drills Working Group, with representatives from core member, member, and contract laboratories, as well as from VS. This group helped develop laboratory-based questions used in the AI tabletop exercises and assisted in developing and implementing future drills for the NAHLN laboratories. The group was instrumental in addressing recommendations from the NAHLN highly pathogenic avian influenza (HPAI) exercise series.

Diagnostic Testing Capacity Increased

To ensure adequate capacity for diagnostic testing during an outbreak, we purchased and distributed high-throughput equipment to NAHLN laboratories. The equipment was originally intended to address the introduction and spread of HPAI, but can also detect CSF, exotic Newcastle disease, and FMD.

2007

AAVLD/NAHLN Toxicology Working Group

We formed the Toxicology Working Group in recognition of the need for a national plan to establish, coordinate, and support formal lines of communication among the existing State veterinary analytical toxicology laboratories and appropriate governmental agencies in the United States. The group comprises professionals from State veterinary diagnostic laboratories and Federal representatives who analyze and diagnose chemical toxicoses and deficiencies in animals.

NAHLN Symposium

Working with the Methods Technical Working Group, we developed a NAHLN symposium titled "Methods Validation and Assessment" and held it in conjunction with the USAHA/AAVLD annual meetings.



Wild Bird AI Surveillance Program Initiated

We initiated the wild bird AI surveillance program in NAHLN laboratories as a collaborative effort with APHIS' Wildlife Services program. This strengthened cooperative relationships, expanded the scope of NAHLN surveillance, and increased electronic messaging capabilities.

NAHLN Program 5-Year Review—Survey Results

The results and recommendations of the NAHLN Phase I Review called for additional input from the laboratory directors, State animal health officials, and VS. The NAHLN Steering Committee developed a survey, and AAVLD administered it to these three groups. The summary report indicated that these groups agreed on issues and concerns about the role of NAHLN within the agriculture and veterinary diagnostic communities. We used data collected from the NAHLN Phase 1 Review and the survey to establish priorities and determine goals.

NAHLN Program 5-Year Review

We completed and released our Phase 1 review in September 2007. The review identified the following areas as needing further evaluation and study or more progress: NAHLN program leadership, management and organization, laboratory network structure, information technology, communication, priority agents, and laboratory quality.

High-Throughput Training Conducted

We held training workshops for high-throughput equipment for AI, CSF, and FMD testing in collaboration with NVSL's reference laboratories. Workshops continued into 2008.

2008

NAHLN Symposium

In collaboration with others in VS, we developed a NAHLN Symposium titled "Emergency Response" and held it in conjunction with the USAHA/AAVLD annual meetings.

Authorized Foreign Animal Disease Investigation Testing in NAHLN Laboratories

APHIS issued VS Memorandum 580.4, which outlines procedures for investigating a suspected foreign animal or emerging disease incident. The memo also includes procedures for NAHLN laboratories providing testing for foreign animal disease investigations in specific situations. VS continues to update this memo as needed to offer network laboratories clear, timely information on this topic.

2009

AI Tabletop Exercise Series

We assessed laboratory preparedness during a series of HPAI tabletop exercises. In total, we held 38 exercises involving animal health responders from 45 States.

Swine Influenza Virus (SIV) Surveillance

VS developed and implemented a surveillance plan for SIV, including the 2009 pandemic H1N1 virus (pH1N1), in swine. The surveillance plan aimed to identify the pH1N1 strain and other nontypical strains of SIV. Initially, 36 NAHLN laboratories participated in the SIV surveillance activities. Collaboration with the NAHLN Methods Technical Working Group and others in USDA (within APHIS and the Agricultural Research Service) led to the rapid deployment of influenza assays used to detect the novel 2009 H1N1 virus.

First Issue of NAHLN Newsletter Released

In February 2009, we distributed the first issue of *The NAHLN Quarterly*, an electronic newsletter to increase communication with our stakeholders. Since that time, subscriptions have increased to over 1,500 and include laboratory directors, State animal health officials, APHIS program staff, animal industry representatives, and other State, Federal, and international representatives.

NAHLN Symposia at WAVLD and AVMA

We developed a NAHLN symposium titled "Development and Implementation of Veterinary Diagnostic Laboratory Networks—the Principles of Laboratory Network Development and Function" and held it in conjunction with the World Association of Veterinary Laboratory Diagnosticians (WAVLD) annual meeting. In collaboration with other VS units, we also developed a NAHLN symposium titled "One Medicine" and held it in conjunction with the American Veterinary Medical Association's (AVMA) annual convention.

Annual Reports Distributed to NAHLN Laboratories

The NAHLN program office began distributing customized annual reports to the network laboratories. Each report details the previous fiscal year's accomplishments and activities for the individual laboratory and for NAHLN overall.

Monitored Performance of Assays Used in NAHLN Laboratories

NAHLN laboratories participated in a pilot project that provided real-time analysis and reporting of quality control data from diagnostic serology and nucleic acid testing. The project monitored the performance of the assays by evaluating not only the quality controls in real time, but also how the control values trended over time.

Additional IT Guidance Developed

We simplified our HL7® implementation and messaging guidance, providing a series of instruction manuals to assist NAHLN laboratories with developing messaging capabilities.

NAHLN Portal

Initial planning and development of a secure Web site within the CoreSHIELD framework began. We worked with multiple Federal partners to develop the NAHLN Portal in order to support other Federal, State, and local government regulatory agencies and laboratories in defending the food supply through Web-based tools. These tools focus on enhancing threat prevention and response, risk management, communication and asset coordination, and public education. The NAHLN Portal allows laboratories to exchange information with the NAHLN program office (i.e., SOPs, proficiency testing status, financial agreements, and assay performance monitoring data) securely and efficiently.

NAHLN Laboratory Review Process Created

NAHLN program staff collaborated with AAVLD to establish a review process for network laboratories. The process makes sure that the laboratories develop and maintain a QMS consistent with AAVLD and international standards. NVSL provides each audited laboratory with reports detailing nonconformances and requirements to maintain NAHLN status.

2010

NAHLN Participated in Agricultural Screening Tools (AST) Workshop

The National Center for Foreign Animal and Zoonotic Disease Defense (FAZD), through DHS, funded the first workshop on AST. The meeting sought to define AST, evaluate their current status, identify and discuss the gaps and needs defined by the agricultural community, and obtain stakeholder input on requirements.

PRV Surveillance Expanded

The pseudorabies virus (PRV) surveillance program expanded in 2010. As an extension of established slaughter surveillance efforts, VS implemented PRV surveillance testing in 12 NAHLN laboratories to increase rapid detection of the virus in commercial swine. This surveillance activity now occurs in 16 NAHLN laboratories and supports the USDA's PRV surveillance goals, which include demonstrating freedom from the disease and monitoring domestic sources for PRV.

MTWG Methods Comparison Process Developed

The Methods Technical Working Group created a process to efficiently compare the performance of assays when an existing test requires changes such as sample type or platform.

QMS Training Program Developed and Delivered

The NAHLN program office collaborated with members of the AAVLD Accreditation Committee and NVSL personnel to develop and deliver a QMS Training Program. The training program provided an interactive class environment that included training on quality system requirements, document control, internal auditing, and root cause analysis. In addition, a wet laboratory provided opportunity for participants to conduct an audit, recognize nonconformances, analyze root cause, and write corrective actions. In August 2010, we held the first QMS training in Ames, IA, with a total of 87 participants representing 40 NAHLN laboratories, 8 prospective laboratories, 4 Federal laboratories, and 1 laboratory in Canada.

NAHLN Coordinating Council Formed

We held the inaugural meeting of the NAHLN Coordinating Council in Ames, IA, and included strategic planning sessions focusing on high-consequence and emerging diseases and laboratory network structure. We formed the council to provide input on the following: NAHLN's strategic plan, goals, and operational objectives; specific criteria that define a NAHLN laboratory; policies that relate to the NAHLN; and new efforts for NAHLN.

FMD Tabletop Exercise Series

NAHLN evaluated improvement in laboratory preparedness through 16 FMD tabletop exercises. The series involved personnel from 34 States and the province of British Columbia. We launched the series with a workshop to discuss existing FMD-related policies and identify policy gaps.

Negative Cohort Studies for African Swine Fever (ASF), FMD, and Rinderpest (RP) Conducted

In cooperation with the NAHLN laboratories and NVSL's Foreign Animal Disease Diagnostic Laboratory, we initiated and carried out Negative Cohort Studies for ASF, FMD, and RP. Primarily, the studies sought to further validate the real-time reverse transcriptase PCRs (rRT-PCR) for FMD, ASF, and RP by better understanding the assays' performance characteristics. The studies also offered the laboratories an opportunity to assess and improve their procedures and processes for sample selection, testing, and result communication.

NVSL Tabletop Exercise and Followup VS Policy Workshop Held

As a continuation of the FMD tabletop exercise series, we held additional tabletop exercises at NVSL for AI and FMD, addressing roles and responsibilities, SOPs, and communication during outbreak scenarios affecting both Ames and Plum Island campuses. We conducted a followup policy workshop with VS personnel to address policy gaps identified throughout the FMD exercise series.

QMS Training Program Expands Beyond NAHLN Labs

While we developed the original QMS course to assist the NAHLN laboratories in implementing and continually improving quality management systems, the course has expanded to assist other laboratory networks. In May 2011, we delivered a training program to the National Plant Diagnostic Network. In July 2011, we also conducted a training program in Tanzania for international participants, with representatives from Burundi, Djibouti, Eritrea, Ethiopia, Kenya, North Sudan, Rwanda, Somalia, South Sudan, Tanzania, and Uganda. In August 2011, we offered QMS training at the National Centers for Animal Health in Ames, IA; the class included individuals from 10 NAHLN laboratories, as well as participants from Iraq, Kazakhstan, Kenya, Russia, Tanzania, and Ukraine.

2011

Photo courtesy of Brian Maki



NAHLN Participated in AST II and III

FAZD, with DHS funds, facilitated a second meeting on AST. During this meeting, we discussed industry perspectives on diagnostic testing and obtained input on diagnostic screening tools for transboundary, emerging, and zoonotic diseases. The group also discussed policy gaps and gave input on priorities for diagnostic method development. AST III involved many NAHLN stakeholders who provided input on lab-related concept of operations—specifically, use of diagnostic assays during an outbreak, laboratory operations, and prioritization of samples and reagents.

NAHLN Symposium

We developed a NAHLN/AAVLD Quality Symposium and held it in conjunction with the USAHA/AAVLD annual meetings. Activities included mock audit work stations, as well as corrective action and root cause analysis workshops.

IT HL7® Messaging Training

In August 2011, NAHLN program staff hosted an IT messaging training course for 10 NAHLN laboratories. IT subject matter experts provided an overview of NAHLN and IT message standards, HL7® content mapping, terminology mapping, message construction options, message transport and security, and message creation.

Laboratory Capacity Estimation Model (LCEM) Developed

The development and initial deployment of the LCEM occurred in 2011. FAZD at Texas A&M University collaborated with NAHLN program staff and NAHLN laboratories to develop a diagnostic testing capacity estimation program. The software enhances NAHLN preparedness by allowing laboratories to define their specific processes, apply them to testing scenarios, and generate an estimate of individual laboratory and overall network capacity prior to and during an animal disease outbreak.

Development of the NAHLN Concept Paper

The NAHLN Coordinating Council reviewed the structure of the network in 2011 to ensure that NAHLN continues to meet the missions of early detection, rapid response, and appropriate recovery from adverse animal health events. Based on this review, the council drafted a white paper and provided it to stakeholders for comment at the 2011 AAVLD/USAHA annual meeting.

Training for Foreign Animal Disease Investigations

In May 2012, the NAHLN program office developed and delivered training to NAHLN laboratory representatives that described the investigation and communication that should occur during a potential FAD investigation or emerging disease incident. Following a thorough review of the information in VS Memo 580.4, State and Federal representatives from all groups involved in the process of investigating and communicating an adverse animal health event took part in scenarios and responded as they would in their positions during an actual investigation.

NAHLN Participated in AST IV

We participated in AST IV, where NAHLN Coordinating Council members and several other stakeholders reviewed and gave input on laboratory-related policies and procedures discussed in AST III.

NAHLN Symposium

Working with the AAVLC Accreditation Committee, we developed a NAHLN/AAVLD Joint Symposium and held it in conjunction with the USAHA/AAVLD annual meetings. Topics included responding to a site visit report and internal auditing.

2012

International QMS Training Program Continues

NAHLN delivered the QMS Training Program to an Iraqi exchange scholar, representatives from 12 NAHLN laboratories, and individuals from India, Iraq, Kazakhstan, Kenya, Pakistan, Russia, Tajikistan, Tanzania, Uganda, and Ukraine.

FMD Negative Cohort Studies

We continued assay development and validation projects to address gaps identified by stakeholders in the course of the NAHLN FMD tabletop exercise series and the FAZD AST workshops. Projects completed in 2012 included an FMD pen-side negative cohort study in two NAHLN laboratories and an FMD milk PCR interlaboratory comparison among five NAHLN laboratories, FADDL, and the Pirbright Institute for Animal Health in the United Kingdom.

Further Development of the NAHLN Concept Paper

The NAHLN Coordinating Council reviewed the network's structure in 2012 to make sure that NAHLN continues to meet its mission and goals effectively.

NAHLN Portal: User Acceptance Testing and Further Enhancements

The NAHLN program office and NAHLN laboratories began ongoing user acceptance testing to evaluate the NAHLN Portal's current functions.

LOOKING TO THE FUTURE

The NAHLN is a nationally coordinated network where partnership is the key to success. By building on the founding principles, we will continue to maintain the network's credibility at national and international levels. The founding principles provide a firm foundation and allow us to identify gaps and incrementally address current and future national animal health testing needs.

Our mission has remained constant over the last 10 years, and we do not expect it to change in the next decade. The NAHLN is the nationwide model for effective diagnostic networks that respond quickly and efficiently and communicate diagnostic outcomes to decisionmakers. We provide animal health diagnostic testing to detect biological threats to the Nation's food animals—a critical service that helps protect animal health, public health, and the U.S. food supply.

Together, we strategically combined the infrastructure and expertise in the State veterinary diagnostic laboratories and NVSL to establish the animal health laboratory backbone of our country's emergency response and recovery program. We implemented national, standardized surveillance for high-priority diseases. If we intend to build on our successes, we must continue working together to leverage our collective resources and uphold the NAHLN's founding principles by:

- Operating within a QMS that meets AAVLD, ISO 17025, or equivalent requirements;
- Establishing and maintaining competency of laboratory personnel;
- Using standardized protocols, reference materials, and equipment;
- Participating in communications and reporting systems established by NAHLN;
- Using facilities with biosafety/biosecurity levels requisite for testing performed; and
- Evaluating preparedness (identifying and prioritizing gaps) through scenario testing.

Our partners will continue to be critically important to NAHLN's success. In the years ahead, we will keep strengthening our Nation's ability to address adverse animal health events by continuing to identify gaps, prioritizing our actions, and making change happen together.

USDA is an equal opportunity provider and employer.

APHIS 91-95-013

Issued November 2013

TESTIMONIALS

"As a State Veterinarian, NAHLN activities and test exercises have encouraged seamless communication and interaction with our lab counterparts, and gives me a tool to have data available quickly to use in the decisionmaking process during disease investigations. Our industries are greatly appreciative of these enhanced local capabilities, and I am convinced that testing results provided by NAHLN capabilities have saved our industry millions of dollars by averting misguided or overly aggressive regulatory action to the detriment of commerce."

*Dave Marshall
State Veterinarian and President, USAHA
North Carolina Department of Agriculture and
Consumer Services, Veterinary Division
Raleigh, NC*

"Working with NAHLN increased the molecular detection capability of our laboratory in terms of state-of-the-art equipment, proficiency trained personnel, and standardization of assays... Our two significant accomplishments are the identification of our weakness/strengths and laboratory capacity and expansion of our ability to detect agents of foreign animal disease and high-consequence pathogens. ...NAHLN is one of the best uses of our tax dollars. It has provided a critical role in our State's ability to rapidly detect and respond to animal disease outbreaks."

*Karen Post
NAHLN Laboratory Director
Rollins Diagnostic Laboratory
North Carolina Department of Agriculture
Raleigh, NC*

"NAHLN staff has been very encouraging, supportive, and mentoring of all our efforts, and that has contributed [to] our success."

*Virginia Pierce
NAHLN Laboratory Director
Frederick Animal Health Laboratory
Frederick, MD*

"NAHLN is a critical program that ties the different States' diagnostic entities together for a cohesive preventative force against foreign and domestic diseases. Your program serves to unite us under a consistent set of diagnostic procedures to ensure that the results we provide our clients are accurate and uniform. ...NAHLN has done a lot in conjunction with the AAVLD to improve the quality of livestock diagnostics all across the Nation."

*Bill J. Johnson
NAHLN Laboratory Director
Oklahoma Animal Disease Diagnostic
Laboratory
Oklahoma State University
Stillwater, OK*

"This experience of testing for foreign animal diseases at the NAHLN labs further allows for a cadre of labs ready and able to assist in the event of a large-scale FAD outbreak. ...The NAHLN is a very effective 'lighthouse' and 'first responder' for animal agriculture."

*David Pyburn
Veterinary Medical Officer
APHIS, USDA*

"NAHLN and swine disease surveillance have grown up together. The CSF rRT PCR was the first FAD assay validated for use in the NAHLN system back in 2004. It's not often that a group of people in regulatory medicine get a chance to build a system from scratch, but [USDA] Swine Program staff, the emerging National Surveillance Unit (NSU), and the newborn NAHLN took advantage of the opportunity.

We spent many hours meeting via conference call and in person developing protocols and procedures that have stood the test of time. It's been extremely gratifying to see NAHLN truly become a system over those 10 years. When we began SIV surveillance in the NAHLN system in 2009, many of the protocols and business processes developed for CSF were there for adaptation to SIV (and also PRV). I have no doubts that if we are faced with an FAD emergency in the future, our regulatory health system is much better prepared because of 10 years of hard work and success in developing NAHLN."

*John Korslund
Staff Epidemiologist
APHIS, USDA*

"The existing NAHLN surveillance network gives us a chance to participate on a regional and national level with animal and public health issues... Participation in NAHLN has also given us a new visibility within the university system and State agriculture agencies."

*Neil Dyer
NAHLN Laboratory Director
Veterinary Diagnostic Laboratory
North Dakota State University
Fargo, ND*

"...the value [of] and need for the NAHLN [were] always crystal clear. We needed better surveillance capability for FADs as well as for domestic disease programs, and this was best facilitated and coordinated through a network of State laboratories... Just having this come to fruition while I was in leadership roles at APHIS continues to give me a strong sense of accomplishment. This is monumentally important for U.S. animal agriculture and a model for the world. ...Animal agriculture across the country is far safer and better prepared to respond to an animal health emergency. We all benefit from the NAHLN at the local, State, and national levels."

*Ron DeHaven
Former APHIS Administrator and
Current President, AVMA*

"When you see or hear 'NAHLN,' the words partnership, collaboration, teamwork and leveraging immediately come to mind. Together, we have created a flexible, credible, national diagnostic laboratory system that positions us well to meet animal health and public health challenges of the future. Congratulations and thanks to all for their crucial contributions to the first 10 years of NAHLN."

*Beth Lautner
Director, NVSL
APHIS, USDA*



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